Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A tool analysis device for use on a machine tool comprising a light emitter and a light receiver, the light receiver in use receiving light from the emitter and producing a signal indicative of the amount of light being received, wherein the device further comprises a converter for providing data having a numerical representation of the signal produced by the receiver and comprising also a processor for processing that data and for producing an output when the data conforms to a predetermined ~~condition.~~condition, wherein the predetermined condition is data representing a succession of decreases in the light from the emitter received at the receiver the minimum values of which conform substantially to a curve of a type expected by the processor.

2-5. (Canceled)

6. (Previously Presented) A device as claimed in claim 1, wherein the processor is a digital signal processor operative to process the data continuously according to an algorithm.

7. (Currently Amended) A method for processing an analogue signal resulting from light from an emitter falling on a light receiver of a tool analysis device for use on a machine tool, comprising the steps of:

(i) converting the analogue signal into data having a numerical form which represents the ~~signal; and~~signal;

(ii) processing the data according to an ~~algorithm.~~algorithm; and

(iii) producing an output signal when instructed by the algorithm when the data conforms to a predetermined condition, wherein the predetermined condition is data

representing a succession of decreases in the light from the emitter received at the receiver the minimum values of which conform substantially to a curve of a type expected by the processor.

8-12. (Canceled)

13. (Currently Amended) A device as claimed in ~~claim 2~~claim 1, wherein the processor is a digital signal processor operative to process the data continuously according to an algorithm.

14-16. (Canceled)

17. (New) A device as claimed in claim 1 wherein the curve of a type expected by the processor comprises at least one of a polynomial and an approximately straight line.

18. (New) A device according to claim 17 wherein the processor produces said output when the curve crosses a predetermined threshold.

19. (New) A device as claimed in claim 1 wherein a light beam is passed from the light emitter to the light receiver such that, in use, the light beam is obstructed by a tool.

20. (New) A method as claimed in claim 7 wherein said curve comprises at least one of a polynomial and an approximately straight line.

21. (New) A method of analyzing a rotating tool, comprising the steps of:

(i) taking a light emitter and a light receiver,

(ii) passing a light beam from the light emitter to the light receiver, wherein the light receiver produces a signal indicative of the amount of light being received,

(iii) moving a rotating cutting tool having at least one tooth into said light beam,

(iv) determining at least one of minimum values and maximum values in the signal output by the light receiver as the at least one tooth of the rotating cutting tool interrupts the light beam,

(v) comparing a plurality of said at least one of minimum values and maximum values determined in step (iv) to a predetermined condition, and

(vi) issuing a trigger signal when said plurality of minimum values conform to said predetermined condition.

22. (New) A method according to claim 21 wherein step (iv) comprises determining minimum values in the signal output by the light receiver as the at least one tooth of the rotating cutting tool interrupts the light beam.

23. (New) A method according to claim 22 wherein step (v) comprises fitting a plurality of said minimum values to a polynomial expression.

24. (New) A method according to claim 23 wherein the polynomial expression is derived from a previously acquired calibration curve.

25. (New) A method according to claim 24 wherein step (vi) comprises issuing a trigger signal when the minimum values that are fitted to the polynomial cross a predetermined threshold.

26. (New) A method according to claim 25 wherein step (vi) comprises performing an extrapolation to predict when said predetermined threshold will be crossed.

27. (New) A method according to claim 22 wherein each minimum value is determined from points on either side of said minimum value.

28. (New) A method according to claim 21 wherein the signal output by the light receiver comprises a voltage signal.

29. (New) A method according to claim 21 wherein step (v) comprises determining maximum values in the signal output by the light receiver as the at least one tooth of the rotating cutting tool interrupts the light beam.

30. (New) A method according to claim 29 wherein each maximum value is determined from points on either side of said maximum value.

31. (New) A method according to claim 21 wherein the predetermined condition is selected such that a trigger signal is issued when the rotating tool is moved into the beam.

32. (New) A method according to claim 21 wherein the predetermined condition is selected such that a trigger signal is issued when the rotation tool is moved out of the beam.